

Practitioner's Docket No.: 020661.0111PTUS

Patent Application

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: Greer et al.

Group Art Unit: Unknown

Serial No.: 10/687,318

Examiner: Unknown

Filed: October 16, 2003

For: METHOD FOR PREVENTING AND CLEANING RUTHENIUM-CONTAINING DEPOSITS IN A CVD APPARATUS

INFORMATION DISCLOSURE STATEMENT

Mail Stop Non-Fee Amendment  
Commissioner For Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In accordance with 37 C.F.R. §1.56, the attention of the Patent and Trademark Office is directed to the cited references listed on the attached PTO/SB/08A and PTO/SB/08B. The cited references are believed to be the most relevant known to Applicants and/or Assignee at this time concerning the invention as claimed in the above-captioned patent application. No representation is made or intended that more relevant information does not exist or that the order of presentation of the information in any way reflects their relative pertinence.

Applicants respectfully request that each of the cited information be expressly considered during the prosecution of this application and that the cited references be made of record therein and appear among the "References Cited" on any patent to issue therefrom. A copy of each reference is attached.

This Information Disclosure Statement is being filed within three months of the U.S. filing date OR before the mailing date of a first Office Action on the merits. It is believed that no fees are due. However, if necessary, please charge deficient fees associated with this communication to Deposit Account No. 50-1848.

Respectfully submitted,  
PATTON BOGGS, LLP

Date: 16 Jan 2004

By: Varen C. Belair  
Varen C. Belair  
Customer No. 24283

Registration No. 49,056  
Tel. No.: 303-894-6178  
Fax No.: 303-894-9239

CERTIFICATE OF MAILING (37 C.F.R. 1.8(a))

I hereby certify that, on the date shown below, this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Mail Stop Non-Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: January 16, 2004

Elaine C. VonSpreckelsen

Elaine C. VonSpreckelsen  
Signature

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

|       |   |    |   |
|-------|---|----|---|
| Sheet | 1 | of | 2 |
|-------|---|----|---|

|                        |                   |
|------------------------|-------------------|
| Application Number     | 10/687,318        |
| Filing Date            | 16 Oct 2003       |
| First Named Inventor   | Harold F.R. Greer |
| Art Unit               | Unknown           |
| Examiner Name          | Unknown           |
| Attorney Docket Number | 020661.0111PTUS   |

## U.S. PATENT DOCUMENTS

[illegible]

## FOREIGN PATENT DOCUMENTS

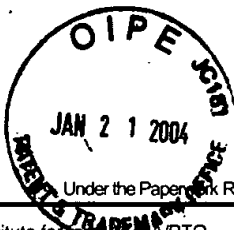
[illegible]

Examiner  
Signature

Date Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional). 2 See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 6 Applicant is to place a check mark here if English language Translation is attached.

***If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.***



PTO/SB/08b(05-03)

Approved for use through 04/30/2003. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form PTO/SB/08b(05-03)

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 2 of 2

**Complete if Known**

|                        |                   |
|------------------------|-------------------|
| Application Number     | 10/687,318        |
| Filing Date            | 16 Oct 2003       |
| First Named Inventor   | Harold F.R. Greer |
| Group Art Unit         | Unknown           |
| Examiner Name          | Unknown           |
| Attorney Docket Number | 020661.0111PTUS   |

**OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS**

| Examiner<br>Initials * | Cite<br>No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T <sup>2</sup> |
|------------------------|--------------------------|---|----------------|
|                        | 4                        | GOODWIN ET AL., "Reactive Metal Volatilization From Ru/Al <sub>2</sub> O <sub>3</sub> As A Result Of Ruthenium Carbonyl Formation", Applied Catalysis, April 1, 1986, pp. 199-209, Vol. 24, Elsevier Science Publishers B.V., Amsterdam, The Netherlands        |                |
|                        | 5                        | PAN ET AL., "Reactive ion etching of RuO <sub>2</sub> thin films using the gas mixture O <sub>2</sub> /CF <sub>3</sub> CFH <sub>2</sub> ", J. Vac. Sci. Technol., Nov/Ded, 1994, pp. 3208-3213, Vol. B 12, No. 8, American Vacuum Society                       |                |
|                        | 6                        | CHANDRA ET AL., "Vapor Pressures of Osmium, Rhodium, and Ruthenium Carbonyls", Journal of Phase Equilibria, July 6, 1999, pp. 565-572, Vol. 20, No. 6   |                |
|                        | 7                        | NAKAHARA ET AL., "Etching technique for ruthenium with a high etch rate and high selectivity using ozone gas", J. Vac. Sci. Technol., Nov/Ded, 2001, pp. 2133-2136, Vol. B 19, No. 6, American Vacuum Society   |                |
|                        |                          |   |                |
|                        |                          |   |                |
|                        |                          |   |                |
|                        |                          |   |                |
|                        |                          |   |                |
|                        |                          |   |                |
|                        |                          |   |                |
|                        |                          |   |                |

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.